

**FC-092****Use of tricortical autologous graft from iliac crest reconstruction of long bone defects after block resection in tumor indications****J. Lesensky, Z. Matejovsky***Orthopaedic Clinic, Teaching Hospital Bulovka, Charles University, Prague, Czech Republic*

Background: Reconstructing a limited bone loss after partial bone resection or extensive curettage for tumor is a common problem in oncological orthopaedics. In the past such defects have been reconstructed mainly by cement filling, cancellous spongiosplasty or massive bone allograft. Prosthetic reconstruction or simple preventive osteosynthesis are also options in some patients.

Materials and Methods: We present a retrospective study of 19 patients with a minimum of one year follow-up, who were treated in our institution between 2000 and 2014 with primary bone tumors and received a reconstruction with autologous corticocancellous graft from iliac crest. Only patients with diaphyseal or periapiphysal defects with preserved joint were included. Patients were evaluated for demographic data, type of reconstruction, location and size of defect, time to radiologic union, time to full weight bearing, MSTS score and complications. Donor site morbidity was evaluated as an independent factor.

Results: The average follow up was 45 months (12 to 146), mean age of pt. in our group was 33 years (18 to 56), male and female were equally affected. 9 pt. received this treatment as a primary reconstruction, 10 patients as a secondary procedure mostly after bone cement extraction. We used plate osteosynthesis as a support in 7 patients. In 4 cases the metal has already been removed in average of 15 months after the reconstruction. The size of the defect ranged from 2 to 10 with mostly periarticular localization (68%). Full weight bearing was allowed in average of 17 weeks after the surgery. We did not encounter any fracture, nonunion or sequestration of the graft. Also no infectious complications were noted in our study. Results with regard to MSTS score were excellent (average 92 %), and all patients would recommend this type of surgery to others. Donor site morbidity was mainly cosmetic. One pt. was revised for muscle contracture, probably not related to the procedure.

Conclusion: We believe, that the use of autologous cortical graft from iliac crest presents a good alternative for reconstructing of short to medium size extraarticular defects. This type of reconstruction allows for an early weight bearing compared to simple cancellous spongiosplasty and in selected cases does not require osteosynthesis. Unlike bone cementing this is a biological and definite type of reconstruction. The use of autologous graft benefits the patient with faster incorporation than allograft struts. Provides similar primary stability that probably even increases in time. Also has less infectious complications and eliminates the need for a bone bank. Donor site morbidity was acceptable in all patients in our group and does not pose a significant problem.